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WHAT IS CLAIMED IS:

1. A transmitting method of digital data for retaining digital data in sectors each comprising a plurality of sync frames and sequentially transmitting ^{the data} _{it}, wherein

said sync frame comprises a sync signal and a run length limited code which corresponds to said digital data and satisfies limitations of a minimum run length and a maximum run length, and

said sync signal includes a sync pattern comprised of a bit pattern of a run length which is longer than said maximum run length by 3T and addition bit patterns which are arranged before and after said bit pattern and each of which has a run length that is longer than said minimum run length.

2. A method according to claim 1, wherein among said addition bit patterns, the addition bit pattern arranged after said bit pattern has a fixed length.

3. A method according to claim 1, wherein

said run length limited code is a code obtained by 8-16 modulating said digital data every eight bits so as to satisfy run length limitations of the minimum run length is 2 and the maximum run length is 10, and

said sync pattern is comprised of bit patterns of run lengths of (4T or more - 14T - 4T).

4. A transmitting method of digital data for retaining the digital data in sectors each comprising a plurality of sync frames and sequentially transmitting ^{the data} _~, wherein

said sync frame comprises a sync signal and a run length limited code which corresponds to said digital data and satisfies limitations of a minimum run length and a maximum run length, and

said sync signal includes a specific code indicative
of a position in said sector.

5. A method according to claim 4, wherein

said sector comprises a plurality of lines each of which is constituted by said two sync frames, and

a position in said sector is identified by said specific code included in each of said two sync signals included every said line.

6. A method according to claim 5, wherein either one of said two sync signals included every said line is cyclically repeated with an increase in number of said lines, based on said specific code included in said sync signal.

7. A method according to claim 4, wherein said specific code in said sync signal arranged at a head of a first line of said sector has a bit pattern in which an inter-code distance for said sync signal arranged at the head of the other line becomes maximum.

8. A method according to claim 3, wherein a DC control can be performed by the bit patterns of said specific code.

9. A method according to claim 8, wherein two kinds of codes having different numbers of inverting times when

they are NRZI modulated can be selected as said specific code, thereby performing said DC control.

10. A method according to claim 5, wherein
said sector comprises 13 lines each of which is constituted by said two sync frames, and
said sync signal has 32 kinds of bit patterns in order to satisfy the limitations of said minimum run length and said maximum run length, specify the head of said sector and each line, and perform said DC control in a connection with said run length limited code existing just before said sync signal.
11. A method according to claim 7, wherein
said sector comprises 13 lines each of which is constituted by said two sync frames, and
said sync signal has 32 kinds of bit patterns in order to satisfy the limitations of said minimum run length and said maximum run length, specify the head of said sector and each line, and perform said DC control in a connection with said run length limited code existing just before said sync signal.
12. A method according to claim 8, wherein
said sector comprises 13 lines each of which is constituted by said two sync frames, and
said sync signal has 32 kinds of bit patterns in order to satisfy the limitations of said minimum run length and said maximum run length, specify the head of said sector and each line, and perform said DC control in

a connection with said run length limited code existing just before said sync signal.

13. A transmitting method of digital data for retaining digital data in sectors each comprising a plurality of sync frames and sequentially transmitting, wherein

said sync frame comprises a sync signal of 32 bits and a run length limited code obtained by 8-16 modulating said digital data every eight bits so as to satisfy run length limitations of a minimum run length is 2 and a maximum run length is 10, and

said sync signal comprises: a connection bit of three bits arranged so as to satisfy the limitations of said minimum run length is 2 and said maximum run length is 10 in a connection with said run length limited code existing just before said sync signal; a specific code of seven bits which satisfies the limitations of said minimum run length = 2 and said maximum run length = 10 and which has 32 kinds of bit patterns; and sync patterns of run lengths of (4T or more - 14T - 4T).

14. A method according to claim 13, wherein said sync signal has 32 kinds of bit patterns shown in the following Table 1 and Table 2, and an arrangement of said sync signals in each line of said sector is set to an arrangement shown in the following Table 3:

Table 1

T_{230X}

SY0	000	1001001	000100 000000000010001	000	1001000	000100 000000000010001
SY1	000	0010000	000100 000000000010001	000	0010001	000100 000000000010001
SY2	000	1000000	000100 000000000010001	000	1000001	000100 000000000010001
SY3	000	0100000	000100 000000000010001	000	0100001	000100 000000000010001
SY4	001	0000000	000100 000000000010001	001	0000001	000100 000000000010001
SY5	001	0001001	000100 000000000010001	001	000100000100	0000000000010001
SY6	001	0010010	000100 000000000010001	001	0000001000100	0000000000010001
SY7	001	0010001	000100 000000000010001	001	001000000100	0000000000010001

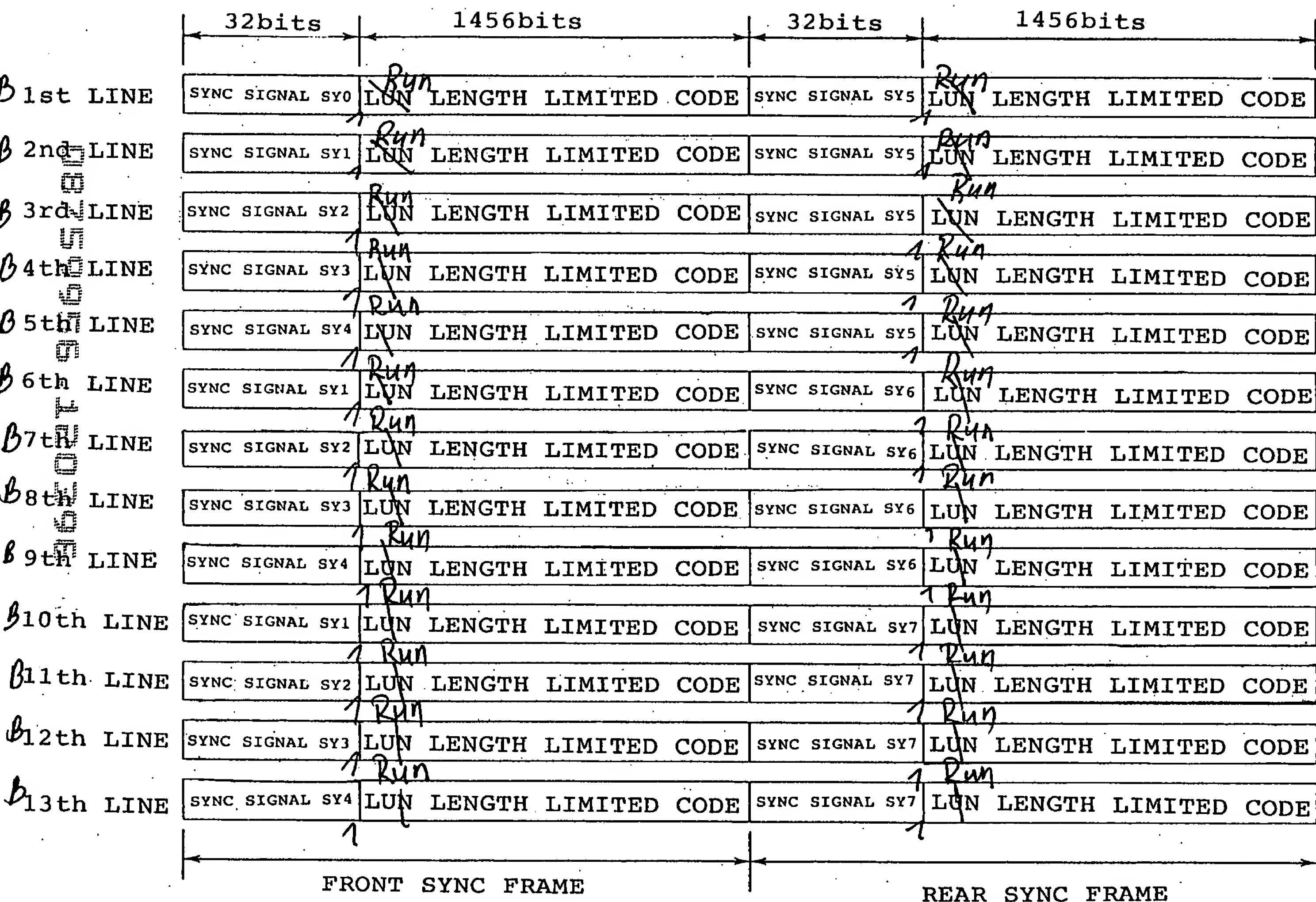
Table 2

T_{231X}

SY0	100	1001000	000100 000000000010001	100	1001001	000100 000000000010001
SY1	100	0010001	000100 000000000010001	100	0010000000100	0000000000010001
SY2	100	1000001	000100 000000000010001	100	1000000000100	0000000000010001
SY3	100	0001001	000100 000000000010001	100	0001000000100	0000000000010001
SY4	1000	1000001	000100 000000000010001	1000	1000000000100	0000000000010001
SY5	1000	1001000	000100 000000000010001	1000	0001000000100	0000000000010001
SY6	1000	1000100	000100 000000000010001	1000	00000001000100	0000000000010001
SY7	1000	1000010	000100 000000000010001	1000	000000010000100	0000000000010001

740X

Table 3



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